Executive Summary

Purpose

This manual was created to support EPA's Coal Remining Subcategory under regulations for the Coal Mining industry at 40 CFR part 434. The purpose of this guidance manual is to assist operators in the development and implementation of a best management practice (BMP) plan specifically designed for a particular remining operation. This guidance manual also was developed to give direction to individuals reviewing remining applications and associated BMP plans. This document is not intended as a substitute for thoughtful and thorough planning and decision making based on site-specific information and common sense.

Organization

This manual is organized to function as a user's guide to meet remining plan requirements and to improve abandoned mine land conditions during remining operations. The manual is divided into the following sections:

- Introduction - presenting state-specific abandoned mine land conditions, industry profile information, the status of remining operations, and general information regarding remining BMPs; the scope of pre-Surface Mining Control and Reclamation Act (SMCRA) mining and associated acid mine drainage contamination;
- Sections 1.0 through 5.0 - describing hydrologic, sediment, and geochemical control BMP implementation practices, site assessment required to determine implementation of these practices, implementation guidelines, design considerations, and case studies;

- Section 6.0 - detailing the efficiency of remining BMPs with regard to the water quality of pre-existing discharges;
- Section 7.0 - providing BMP implementation unit cost information;
- Appendix A - presenting EPA Coal Remining Database and including summary data and information from 61 state remining and abandoned mine land (AML) project data packages;
- Appendix B - presenting summary data from the Pennsylvania Remining Study of 112 closed remining operations affecting 248 pre-existing discharges; and
- Appendix C - presenting responses to the Interstate Mining Compact Commission (IMCC) remining solicitation sheet from 20 member states.

Details of the contents of each section are provided in the Section Outline.

Limitations

This manual provides information on many hydrologic and geochemical control BMPs which can be used to prevent or reduce pollution loading from abandoned mine lands during remining operations. This manual describes the best management practices and controls, provides guidance on how, when, and where to use them, and recommends maintenance procedures. However, the effectiveness of these controls lies fully in the hands of those individuals responsible for site operations. Although specific recommendations are offered in the following chapters, careful consideration must be given to selecting the most appropriate control measures based on site-specific features and conditions, and to properly installing the controls in a timely manner. Finally, although this manual provides guidelines for maintenance, it is up to the responsible party to make sure controls are carefully maintained or they will prove to be ineffective.

This manual is not intended as a stand-alone document in terms of BMP plan development and implementation. Additional information sources pertaining to remining and various aspects of

BMPs can and should be consulted. Many of these information sources are referenced throughout this guidance manual. This manual is intended for use by individuals with the background or experience to adequately understand the technical aspects detailed herein. Individuals charged with developing, reviewing, implementing, and enforcing remining BMP plans must be knowledgeable of all aspects of remining operations (e.g., hydrology, geochemistry, mining operations, etc.), and must be able to modify them when appropriate.

Results Summary

Review of existing data and information that was used to prepare this document indicates that remining operations accompanied by proper implementation of appropriate BMPs is highly successful in reducing the pollution load of mine drainage discharges. The information also shows that remining BMPs typically are used in combination as part of an overall and site-specific BMP plan. Critical to the effectiveness of a BMP plan in terms of water quality and AML improvement is that the plan is well designed and engineered, implemented as proposed, and that the implementation and subsequent post-mining results are verifiable.